

MORRISON & FOERSTER LLP
MICHAEL A. JACOBS (Bar No. 111664)
mjacobs@mofo.com
MARC DAVID PETERS (Bar No. 211725)
mdpeters@mofo.com
DANIEL P. MUINO (Bar No. 209624)
dmuino@mofo.com
755 Page Mill Road, Palo Alto, CA 94304-1018
Telephone: (650) 813-5600 / Facsimile: (650) 494-0792

BOIES, SCHILLER & FLEXNER LLP
DAVID BOIES (Admitted *Pro Hac Vice*)
dboies@bsfllp.com
333 Main Street, Armonk, NY 10504
Telephone: (914) 749-8200 / Facsimile: (914) 749-8300
STEVEN C. HOLTZMAN (Bar No. 144177)

sholtzman@bsfllp.com
FRED NORTON (Bar No. 224725)
fnorton@bsfllp.com
1999 Harrison St., Suite 900, Oakland, CA 94612
Telephone: (510) 874-1000 / Facsimile: (510) 874-1460
ALANNA RUTHERFORD (Admitted *Pro Hac Vice*)
575 Lexington Avenue, 7th Floor, New York, NY 10022
Telephone: (212) 446-2300 / Facsimile: (212) 446-2350 (fax)

ORACLE CORPORATION
DORIAN DALEY (Bar No. 129049)
dorian.daley@oracle.com
DEBORAH K. MILLER (Bar No. 95527)
deborah.miller@oracle.com
MATTHEW M. SARBORARIA (Bar No. 211600)
matthew.sarboraria@oracle.com
500 Oracle Parkway, Redwood City, CA 94065
Telephone: (650) 506-5200 / Facsimile: (650) 506-7114

Attorneys for Plaintiff
ORACLE AMERICA, INC.

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION**

ORACLE AMERICA, INC.

Plaintiff,

v.

GOOGLE, INC.

Defendant.

Case No. CV 10-03561 WHA

**ORACLE AMERICA, INC.'S REPLY IN
SUPPORT OF ITS MOTION TO STRIKE
PORTIONS OF GREGORY K. LEONARD'S
SUPPLEMENTAL REPORT**

Dept.: Courtroom 8, 19th Floor
Judge: The Honorable William H. Alsup

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I. INTRODUCTION

Dr. Leonard's "forward citations" analysis is fundamentally flawed and unreliable. Google would have Dr. Leonard present calculations to the jury that misleadingly understate the value of the patents-in-suit, secure in the knowledge that Prof. Cockburn will not be allowed to rebut that testimony directly. In its opposition, Google tries to explain away the flaws in Dr. Leonard's analysis, but its explanations can neither provide a foundation for Dr. Leonard's analysis – a foundation that exists nowhere in his supplemental report or elsewhere in the record – nor justify what he did even if they were admissible. For example, Google completely distorts the relationship between the '104 patent and its predecessors in an attempt to rationalize Dr. Leonard's failure to properly account for the fact that the '104 patent is a reissue. The wild variation in results depending on how citations to the '104 and its predecessors are counted shows that Dr. Leonard's methodology lacks factual foundation or scientific support. Indeed, Google cites no case in which the forward citations approach has been used to demonstrate or quantify the value of patents in litigation, much less used in the way Dr. Leonard proposes.

Similarly, Google fails to explain how an allocation reflected in a 2010 Oracle accounting document is relevant to assessing the reasonable royalty in a 2006 hypothetical negotiation between Sun and Google.

Finally, nothing in Google's opposition would warrant permitting Dr. Leonard to confuse the jury by testifying that, instead of Sun's expected gains, "[i]t is the value that Google was expecting to receive that matters for the reasonable royalty analysis." Google makes no serious effort to defend this statement, which is plainly wrong as a matter of law. At the same time, however, Google's opposition makes clear that Dr. Leonard intends to argue at trial that Google had a "bottom line" (Dkt. 762 at 12) that necessarily limits the reasonable royalty. That testimony is contrary to Federal Circuit law, and

would mislead the jury.

II. ARGUMENT

A. Dr. Leonard's Forward Citations Analysis Is Profoundly Flawed And His Results From That Analysis Are Unreliable And Irrelevant

Dr. Leonard's analysis suffers from two fundamental flaws, each of which renders Dr. Leonard's calculations unreliable and misleading. Neither Google's opposition nor Dr. Leonard's declaration provides any basis to ignore those errors and permit Dr. Leonard to present his analysis to the jury.

Dr. Leonard's supplemental report does not claim any experience with forward citations analysis, in litigation or otherwise, and Dr. Leonard's declaration neither claims any prior familiarity with the literature in this area nor claims to have ever attempted a forward citations analysis before. Google provides utterly no basis for the Court to conclude that Dr. Leonard's analysis has sufficient reliability or foundation to be admissible, or that Dr. Leonard has sufficient expertise to perform such an analysis. Indeed, Google's lawyers' evidentiary arguments for why Dr. Leonard's citations analysis is actually sound cannot rescue it because Dr. Leonard has no expertise in the underlying factual assertions (for example, with regard to the relationship between claims of the '104 patent and its predecessors) and no other Google expert has disclosed testimony on the relevant issues. There is simply no admissible foundation on which the analysis, particularly as qualified and explained by Google's opposition brief, can rest.

1. Dr. Leonard Fails To Correctly Count Citations For The Re-Issued '104

Google does not dispute that Dr. Leonard does not include citations to predecessor patents in his forward citations analysis. (Dkt. 762 at 1-7.) Dr. Leonard never addresses this issue, either in his report or his declaration. With his declaration, Dr. Leonard had the opportunity to disclaim that this was an oversight, and to explain why he did not include citations for predecessor patents in his analysis. Dr. Leonard did not do so. As a result, the record contains *no evidence* on this issue other than Prof. Cockburn's declaration, which explains that Dr. Leonard's omission of those citations is a substantial error that makes the results unreliable. (Dkt. 730 (Cockburn Decl.) ¶¶ 4-6.)

According to Google's counsel, Dr. Leonard's omission or exclusion of citations to the predecessors of the '104 is appropriate because the "claims in the predecessors are entirely distinct from

the claims in the '104.” (Dkt. 762 at 1.) This argument is misleading, and based on a misreading of the patents. More importantly, this post-hoc justification provides no foundation for Dr. Leonard’s analysis.

Google claims that Sun “forfeited” the ten claims in the original '685 patent (Dkt. 762 at 4), but that is false. All ten claims originally in the '685 patent continue to exist in the reissued '204 patent. (*Compare* Dkt. 763-1 (Zimmer Decl. Exh. B ('204 patent)) *with* Dkt. 763-3 (Exh. C ('685 patent)) (first ten claims in the '685 patent and the '204 patent are *identical*.) The fact that those ten claims are not asserted again in the '104 patent is irrelevant because the '104, '204, and '685 all describe the covered invention using exactly the same specifications, figures, and abstracts. (*Compare* Dkt. 763-1 at 2, 5–9 (Zimmer Decl. Exh. A ('104 patent)) *with* Dkt. 763-2 at 2, 4–8 (Exh. B ('204 patent)) *and* Dkt. 763-3 at 2, 3–7 (Exh. C ('685 patent)).¹) Thus any citation to the '685 or the '204 necessarily covers what is included in the '104, and should be included in any citations analysis, assuming *arguendo* that such an analysis is appropriate at all.

Neither Google nor Dr. Leonard provide any basis on which the Court or the jury can find that the PTO cites patents for particular claims, as opposed to for the fundamental inventions, specifications, figures, or abstracts they provide. In a common-sense approach, forward citations to the '685 original patent and '204 reissue patent would be attributed to the '104, because all three patents disclose the same invention. Common sense strongly suggests that citations to patents sharing identical specifications should be counted together, irrespective of any differences with respect to particular claims. It is a fundamental error for Dr. Leonard to exclude the predecessor patents from his counts.

Google’s emphasis on *claims* also cannot be reconciled with what Dr. Leonard actually did: count cites to *patents*. (*See* Dkt. 731-1 (Richardson Decl. Exh. A (Supp. Leonard Report)) at 7 (“I have examined the number of ‘forward citations’ for each of the 22 *patents*.”) (emphasis added).) The substantial body of literature on patent citation analysis does not discuss citations to claims. This is because patents and patent examiners do not cite claims. They cite other patents.

Google points to no study, peer-reviewed or otherwise, that values continuation or reissue

¹ The '204 includes one typo that does not appear in the '104 or '685, stating “compiing” instead of “compiling” in the abstract. In substance, the abstracts are identical.

patents separately from the original patent based upon the individual counts of forward citations. At least one study concluded that “[a] re-issued patent, all else equal, is nearly three times as valuable as other patents.” James Besson, *The value of U.S. patents by owner and patent characteristics*, Research Policy 37 (2008) 932–45 at 940 (working paper available at http://ssrn.com/abstract_id=949778). That finding indicates, consistent with Prof. Cockburn’s analysis, that the ’104 patent should be one of the most valuable patents in the top 22 in the Sun Java smartphone portfolio. By counting citations only to the ’104, Dr. Leonard ranks the ’104 patent eleventh out of twenty-two patents, when it should be *first*. He has done so only because he ignores a large number of citations concerning the same technology, identically disclosed in the predecessor patents.

In the end, Google offers nothing to support Dr. Leonard’s counting of citations except its own say-so. Dr. Leonard’s counting omission fatally undermines his analysis. It cannot, as he claims, shed light on the accuracy of Prof. Cockburn’s group and value approach. It can only mislead the jury.

2. Dr. Leonard’s Fails To Correctly Account For Different Issue Dates

Google concedes that a forward citations analysis must control for the age of the patents cited, and argues that Dr. Leonard properly did so. (Dkt. 762 at 5-6.) Google’s arguments are incorrect.

Google does not dispute that Dr. Leonard’s first set of calculations does not account for the different patent issue dates, and acknowledges that those numbers are “based on the simple total of forward patent citations.” (*Id.* at 5.) But Google then argues that Dr. Leonard’s second set of calculations adequately adjusts for the different issue dates (*id.*), which Dr. Leonard describes in his report as “the number of forward citations for a patent relative to the average number of forward citations for a patent in the same class as the patent in question.” (Dkt. 731-1 (Richardson Decl. Exh. A (Supp. Leonard Report)) at 7.) This second set of numbers is no more reliable or meaningful than the first.

None of Dr. Leonard’s calculations reliably account for the different issue dates among the patents. In his declaration, Prof. Cockburn explained that he has published a number of articles concerning patent citations analysis. (Dkt. 730 (Cockburn Decl.) ¶ 3 & fn. 1.) Prof. Cockburn noted that it is well-recognized that a “citation truncation” issue must be accounted for in any such analysis. (*Id.* ¶ 8.) “Truncation” refers to the fact that we only have citations through the current time, and

overlaps with the problem caused by the fact that there have been varying degrees of citation intensity at various times.²

Although this citation truncation problem is well known,³ neither Dr. Leonard's declaration nor Google's brief explains how Dr. Leonard's analysis avoids it. He has not. Although at least two approaches to the problem (referred to as the fixed-effects approach and a quasi-structural approach)⁴ have been recognized in the literature, Dr. Leonard appears to be as ignorant of those solutions as he is of the underlying problem. Simply counting up the number of citations for patents issued in a fixed window before and after the relevant patent does not do the trick, as Prof. Cockburn's declaration explains. (Dkt. 730 (Cockburn Decl.) ¶¶ 8-12.)

One obvious problem with Dr. Leonard's analysis, which Google simply ignores, is that a three-year window is not even available for all of the patents he evaluated. Dr. Leonard's analysis includes one patent that was issued on February 1, 2011. (Dkt. 731-3 (Richardson Decl. Exh. C).) Obviously, three years have not passed since the patent issued. As a result, he has an incomplete data set from which to draw any conclusions about the relative value of that patent. Instead, Dr. Leonard makes the nonsensical claim that he looked two years into the future in order to have a basis for comparison on that particular patent. (Dkt. 764 (Leonard Decl.) ¶ 4.)

Dr. Leonard's new calculations based on two- and one-year windows, disclosed only in his supporting declaration and entirely absent from his supplemental report, suffer from precisely the same defect, as does Dr. Leonard's division of the number of citations by the age of the patent. (Dkt. 764 (Leonard Decl.) ¶ 5.) Dividing the number of citations by the age of the patent assumes that patents generate the same number of citations in the first year as in the fifth year, an assumption that is both unsupported and wrong.

² Bronwyn H. Hall, et al. "The NBER Patent Citations Data File: Lessons, Insights and Methodological Tools," National Bureau of Economic Research Working Paper Series, Working Paper No. 8498, available at <http://www.nber.org/papers/w8498.pdf>, at 10, 26 (Oct. 2001).

³ See Bronwyn H. Hall, et al. "The Market Value of Patents and R&D: Evidence From European Firms," National Bureau of Economic Research Working Paper Series, Working Paper No. 13426, available at <http://www.nber.org/papers/w13426.pdf>, at 18 (Sept. 2007) ("*Correcting for citation truncation*: Patent citations suffer from several potential sources of biases, the most obvious of which is truncation.").

⁴ Hall (2001) at 28.

3. The Articles Cited By Google Provide No Support For Dr. Leonard's Calculations In This Case

Google cites three different articles in support of Dr. Leonard's analysis – Harhoff, Webster, and Trajtenberg. (Dkt. 762 at 4 & fn. 2.) Based on those articles, Google argues that Dr. Leonard's forward citations analysis is reliable because there is a "large body of literature using exactly that analysis for this precise purpose." (Dkt. 762 at 4.) That statement is false.

None of the articles cited by Google resemble or support Dr. Leonard's analysis, which focuses on just 22 patents issued as recently as February 2011. The Harhoff article analyzed 4,439 patents with a 1977 priority date, which were then renewed until 1995. (Dkt. 763-4 (Zimmer Decl. Exh. D) at 1348.) The Webster article does not concern patent citations at all, and in fact only mentions "citations" in a footnote. (See Dkt. 762 at 4 & n. 2 (quoting footnote).) The Trajtenberg article was based on an analysis of 456 patents issued in 1971 through 1986. (Dkt. 763-5 (Zimmer Decl. Exh. E) at 175.) As Prof. Cockburn explained at his deposition, citations analysis can be useful when dealing with a large set of patents issued many years ago, as in these studies. (Dkt. 731-2 (Richardson Decl. Exh. B (Cockburn Depo. Tr. excerpts)) at 112:10-114:13.) But the fact is that Dr. Leonard has not applied the methodology employed in those studies, because his sample population is too new and too small—as much as 200 times smaller.

As another Harhoff paper states, use of forward citations as a guide to individual patent value is characterized by a high degree of "noise" (*i.e.*, variation around average results). (See Dietmar Harhoff et al., *Citation Frequency & the Value of Patented Inventions*, Review of Economics and Statistics (Aug. 1999) at 513 ("The relatively low R^2 values for all regressions and the wide confidence bounds reveal that the citation-value relationship is quite noisy."), available at www.jstor.org/stable/2646773) Some studies call into question the usefulness of citations analysis. (See, *e.g.*, Besson, *supra* ("the effect of patent citations on patent value is small relative to the effect of other patent characteristics. For example, litigation is associated with an increase in patent value that is over 100 times as much as the increase associated with a patent citation").). To the extent it is useful at all, that use is reliable only in relation to large sets of older patents. Google and Dr. Leonard simply ignore these inconvenient findings. For a pool of 22 patents issued relatively recently, the noise is highly likely to overwhelm the signal.

These issues are not, as Google contends, something that should just be raised “on cross-examination.” (Dkt. 762 at 6.) The Court’s prior order would prevent Prof. Cockburn – who actually has expertise in this area of patent analysis – from providing direct rebuttal testimony that would expose the flaws in Dr. Leonard’s “analysis.” Dr. Leonard’s analysis is unreliable and, particularly under these circumstances, inadmissible under Rule 702.

B. Dr. Leonard’s Calculations Based On An Accounting Document Prepared For Oracle In 2010 Are Misleading And Irrelevant

Google’s opposition confirms that it wants to use the 2010 allocation document to “place a cap on damages.” (Dkt. 762 at 10.)

Neither Dr. Leonard’s supplemental report nor his declaration includes any discussion of why the 2010 allocation document is relevant to the calculation of a hypothetical license fee negotiated between Sun and Google in 2006. Google’s opposition consists only of post-hoc arguments about and characterizations of the 2010 document, none of which have either any foundation or any merit.

.⁵) As Oracle explained in its motion, the fact that the valuation included in this document was rendered four years after the hypothetical negotiation, and after Google launched Android, makes the document irrelevant to the 2006 license negotiation.

⁵ The point is just that the document is not relevant to assessing damages based on a 2006 hypothetical license, and it is misleading for Dr. Leonard to use the document in that way.

Google argues that this is nothing more than an “evidentiary dispute” that boils down to “which evidence deserves the most weight.” (Dkt. 762 at 7-8.) Before there can be a dispute over *how much* weight to give the document, Google must establish that it is entitled to *some* weight. It has not done so, and cannot.

The only people who say it represents a valuation of the intellectual property are Dr. Leonard and Google’s lawyers. The document is irrelevant to what the parties might have considered and agreed to in 2006, and Dr. Leonard’s reference to it is therefore also irrelevant.

Google’s attempt to distinguish the Court’s prior ruling regarding the admissibility of the *Sun v. Microsoft* settlement (Dkt. 762 at 9-10) is also baseless. The accounting figures included in this 2010 document are actually far less relevant than the amount Microsoft agreed to pay in the *Sun v. Microsoft* settlement. That entire lawsuit focused on Java technology and the settlement occurred in 2004. It is reasonable to assume that Sun and Google would have considered the amount of the *Sun v. Microsoft* settlement when negotiating in 2006.

The *Sun v. Microsoft* settlement was the result of a

negotiation over patents,⁶ [REDACTED] Given the Court's order barring testimony regarding the amounts at issue in the *Sun v. Microsoft* settlement, Dr. Leonard should be barred from offering misleading testimony based on amounts in this document.

Finally, Google contends that Dr. Leonard was trying to "test how robust" Prof. Cockburn's methodology is and that he should be permitted to present these calculations because they "cast doubt on Dr. Cockburn's *apportionment analysis*." (Dkt. 762 at 10-11 (emphasis added).) Dr. Leonard is not "testing" Prof. Cockburn's apportionment analysis in any way. Dr. Leonard purports to apply Prof. Cockburn's apportionment methodology without modification. (Dkt. 731-1 (Richardson Decl. Exh. A (Supp. Leonard Report)) at 9.) The only thing Dr. Leonard changes is the starting point:

- Prof. Cockburn's calculations begin with an adjusted starting point of \$687.3 million, which is based on the value that Sun would have received as a result of entering into the license agreement that was actually negotiated with Google in 2006. He then identifies the portion of the \$687.3 million attributable to the patents in suit relative to the other 569 that might have been included in the portfolio.

[REDACTED]

Dr. Leonard's analysis does not test the robustness of anything, or "cast doubt" on Prof. Cockburn's apportion analysis. Dr. Leonard uses the same apportionment method and simply applies it to a lower starting amount and then allocates that amount over a much large set of patents. The output is lower because the input is lower. Google is seeking to mislead the jury by presenting irrelevant calculations that it argues should "cap" the amount of any reasonable royalty.

C. Dr. Leonard's Claim That Google's Expected Gains Are Determinative With Respect To The Amount Of Any Reasonable Royalty Awardable To Oracle Is Wrong And Improper

Oracle seeks to strike the portion of Dr. Leonard's report that concludes: "Sun may have expected to receive greater value (e.g., through Project Armstrong) than Google was expecting to receive. It is the *value that Google was expecting to receive that matters* for the reasonable royalty analysis." (Dkt. 731-1 (Richardson Decl. Exh. A (Supp. Leonard Report)) at 2 (emphasis added).)

In its opposition, Google does not actually seek to defend this statement, which is plainly wrong

⁶ See April 2, 2004 Microsoft press release, available at <http://www.microsoft.com/presspass/press/2004/apr04/04-02sunagreementpr.mspx>.

1 as a matter of law. Google also ignores the cases cited by Oracle. Google instead argues that this is an
 2 economic, not legal, opinion. (Dkt. 762 at 11.) Google's characterization makes no difference.
 3 Whether economic or legal, the statement is wrong. The amount Google expected to receive is not
 4 determinative.

5 Google then seeks to recharacterize Dr. Leonard's statement, arguing that Dr. Leonard's point is
 6 only that "*Google* would have decided how much *it* was willing to pay Sun based on its expectation of
 7 value of the partnership to Google" (Dkt. 762 at 11 (emphasis added).) This is not what Dr.
 8 Leonard said. The question is what Sun and Google would have reasonably agreed to, based on their
 9 expected gains and losses. How much Google was "willing to pay Sun based on its expectation of
 10 value" is not determinative.

11 In the end, Google's opposition demonstrates that Google still wants Dr. Leonard to be able to
 12 tell the jury that the bottom line is what Google was willing to pay, and that the reasonable royalty
 13 cannot be more than what Google expected to earn. That is incorrect as a matter of law. It would be
 14 confusing to the jury to permit that testimony.

15 **III. CONCLUSION**

16 For these reasons, Oracle respectfully requests that the Court strike the specified portions of Dr.
 17 Leonard's supplemental report.

18 Dated: March 6, 2012

BOIES, SCHILLER & FLEXNER LLP

19 By: /s/ Steven C. Holtzman
 20 Steven C. Holtzman

21 *Attorneys for Plaintiff*
 22 ORACLE AMERICA, INC.
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